

Gen. Wm. Muwo died near Taunton, England, Jan 29, 1880, at the age of 64.

Coe F. Austin, Closter, N. J., died March 18, 1880, at the age of 49.

Wm. Philip Schimper died March 20, 1880, at the age of 72.

Nils J. Andersson died at Stockholm, March 27, 1880, at the age of 59.

Dominique Alexandre Godron died at Nancy, August 16, 1880, at the age of 73.

S. B. Mead, Augusta, Ill., died November 11, 1880, at the age of 81.

W. Lauder Lindsay died November, 1880, at the age of 52.

Ernst Hampe died November 23, 1880, at the age of 85.

Alphonso Wood, West Farms, N. Y., died Jan. 4, 1881, at the age of 70.

Gottlieb Ludwig Rabenhorst died near Meissen, in Saxony, April 24, 1881, at the age of 74.

Matthias Jacob Schleiden died at Frankfort on the Maine, June 23, 1881, at the age of 77.

Theodore Schwann died at Liege, Belgium, early in the present year, at the age of 70.

Joseph Decaisne died at Paris, February 8, 1882, at the age of 74.

Thomas Potts James died at Cambridge, Mass., February 22, 1882, at the age of 78.

Wm. H. Leggett died in N. Y. City, April 11, 1882.

Charles Robert Darwin died April 20, 1882, at the age of 73.

The Genus *Isoetes*; by Dr. George Engelmann.—This is a pamphlet of 33 pages from the Transactions of the St. Louis Academy, Vol. IV, No. 2, and was read in February of this year. This insignificant genus was for a long time ignored by botanists and until thirty or forty years ago, the few specimens that were collected were referred to *I. lacustris*. Of course a genus that was attractive to no one else was just the one for Dr. Engelmann to study and the result is that we now wonder why so interesting a genus was not studied long ago. At least this pamphlet will spur us all to activity and its author will begin to hear frequently of more *Isoetes*. This paper is remarkable for its completeness, containing all the information pertaining to the genus that can be given at the present time, though, to be sure, the literature of the subject has not yet become very extensive. First the author gives the history of the genus in North America, giving a complete list of the discoveries of the various species, from that of Pursh in 1806 (?) to that of the author and Mr. Pringle in 1881. Under the same heading is included a list of publications in reference to the genus.

Then follows an account of the morphology and biological elements of the members of this genus, the simplest vascular plants

known. The lobing of the trunk, the presence or absence of stomata, and the peripheral bast-bundles are noted as furnishing valuable characters for classification. The rarest patience has been shown in the careful dissection of tissues in hundreds of specimens not in all cases the best. The author advises any one who desires to study the structure of *Isoetes* to begin with the well known species and fresh specimens. The arrangement of the leaves varies from distichous to even the 21-34 order; their number from 5 or 10 to 100 or even 200; their length from $\frac{1}{2}$ to 1 inch to 1 or 2 feet. The genus contains from 40 to 60 species, North America having 14, with 12 varieties. The systematic arrangement proposed is as follows:

I. TRUNK BILOBED.

A. Submerged species with quadrangular leaves, without, or in 4 and 5 with few or many stomata, and without peripheral bast bundles; velum incomplete.

1. *I. lacustris*. 2. *I. pygmaea*. 3. *I. Tuckermanni*. 4. *I. echinospora*.
6. *I. Bolanderi*.

B. Amphibious species with abundant stomata in the quadrangular leaves.

* Without peripheral bast-bundles (these are intermediate between the submerged and the truly amphibious species).

† Velum partial.

6. *I. saccharata*. 7. *I. riparia*.
†† Velum complete.

8. *I. melanospora*.

** With peripheral bast-bundles.

† Velum partial.

9. *I. Engelmanni*, 10. *I. Howelli*.
†† Velum complete.

11. *I. flaccida*.

C. Terrestrial species, maturing when entirely out of water, with abundant stomata and peripheral bast-bundles in the nearly triangular leaves.

* Velum partial or almost wanting.

12. *I. melanopoda*. 13. *I. Butleri*.

** Velum complete.

14. *I. Nuttallii*.

II. TRUNK TRILOBED. (Numerous stomata and bast-bundles in the quadrangular leaves; velum partial.)

15. *I. Cubana*. (From Cuba.)

In regard to geographical distribution the following quotation is made as it may be of service to collectors:

Only a small part of the North American continent has been well explored for *Isoetes*, and there, from Massachusetts to the Chesapeake Bay, they appear abundant enough; farther south, and in the whole interior and western part of the continent, they have thus far been found only in a few localities. Some species are quite local, as is the case, also, with many species of the old world, while others are widely distributed. Our two northern species are identical with or closely allied to European forms, all the others are quite distinct from such, so that there is scarcely more than a generic analogy between the species of our middle and southern regions with the Mediterranean ones or those of other regions of the globe.

The old Linnean *I. lacustris* is the only species which has been found to extend from the Atlantic to the Pacific States, and it probably occupies a northern belt of the northern hemisphere, though it seems not to have been discovered as yet in Asia. The American forms allied to *I. echinospora*, the other north European species, are the most common in the belt of northern States as far west as Michigan, and have been detected also on the western slope of the Rocky Mountains. Of the others, *I. Engelmanni* extends from Massachusetts Georgia and westward to Missouri, though thus far not found anywhere else west of the Alleghany Mountains. *I. flaccida* is peculiar to Florida and *I. Bolanderi* to the lakes of the western mountain chain, the Rocky Mountains as well as the Sierra Nevada. *I. melanopoda* occupies parts of the Mississippi Valley from Central Illinois to Northwestern Texas, while *I. Nuttallii* is the only species found in the valley of the Columbia river. All the other species seem to be nearly or quite local, *I. pygmaea*, in the Californian Sierra, but most of them on the Atlantic border; thus *I. Tuckermanni* occurs only near Boston. *I. saccharata* on streams emptying into the Chesapeake Bay, and *I. melanospora* only on that peculiar and botanically interesting rock, the Stone Mountain of Georgia. Some species which seemed local have lately assumed a little wider range, though yet quite restricted; among these I mention *I. riparia* of the banks of the lower Delaware river which occurs also further north, and *I. Butleri*, first known only from the Indian Territory, now also found in Tennessee. There can be no doubt but that some of the apparently local species will yet be found in a more extended area, when botanists will include in their researches these obscure and inconspicuous plants.

New Species of Fungi, by Chas. H. Peck.—HYMENOCHÆTE MULTISPINULOSA.—Resupinate, dark reddish-brown, the margin paler, the hymenium velvety by reason of the numerous setæ, uneven, tuberculose, cracking into small areas; setæ straight or slightly flexuous, crowded, .0025–.0045 of an inch long, arising from and often persistently attached to the paler filaments of the substratum.

Surface of decaying wood. Arizona, April. *C. G. Pringle*.

This fungus approaches, in some respects, the subgenus *Velticeps*. The specimens are sterile. The color is somewhat darker than that of *H. corrugata*.

HYMENULA LYCHNIDIS.—Minute, punctiform, disk whitish or pallid, surrounded by a black margin; spores oblong-cylindrical or subclavate, colorless, .0005–.0008 of an inch long, .00016 broad.

Dead or languishing leaves of *Lychnis*. California, July. *M. E. Jones*.

To the naked eye this fungus appears like minute black dots, but when magnified the dots are seen to be the black margin, which surrounds a pale disk.

LYCOPERON PACHYDERMUM.—Subglobose, four to six inches in diameter, the radiating bases somewhat pointed, the external peridium thin, smooth, whitish, the upper part cracking into small angular persistent spot-like scales or areas, the inner peridium thick, sub-corky, somewhat brittle, the upper part at length breaking up into irregular fragments; capillitium and spores ochraceous-brown, the filaments long, flexuous, somewhat branched, .0003 of an inch thick;